

Merging Academics and Operations in a Statewide University Consortium
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Clemson, the Medical University of South Carolina in Charleston, and the University of South Carolina are now in the fourth year of a productive partnership — the Sustainable Universities Initiative (SUI). In 1998, the presidents of the three schools signed a pledge to cooperate in leading the way toward a more sustainable future through teaching, research, community service and facilities management. In 2000, the state's General Assembly appropriated one-time funds to expand the program to other state-supported institutions of higher education. To date, 13 four-year and technical schools have joined.

Although SUI encompasses multiple goals, our principal mission can be summarized as a two-pronged effort: to help students understand the effect they have on the world around them, and to assist our institutions reduce their environmental footprint. We realize that we can make progress toward both goals by encouraging students and faculty to use the campus as a laboratory, exploring ideas and principles on the infrastructure that surrounds them daily. Students learn practical, real-world skills, and the campus benefits from their efforts.

Many faculty members at our member schools have carried out interesting and effective “campus as laboratory” projects with small groups of students. A number of courses incorporate sustainability-related work, ranging from rehabilitation of waterways near campus to assessing bicycle use on campus. However, early in the life of the consortium, we realized that with a very limited staff we would need to find creative ways to bring our message to large numbers of students. This paper describes three large-scale efforts that creatively combine academic learning with enhancing sustainability within our institutions. The first two involve the incorporation of service learning related to the campus environment into English classes, and the third models sustainability in a large residential facility.

University of South Carolina English 101

At the University of South Carolina in Columbia, approximately 90% of the 3200 incoming freshmen are required to take English 101. Using a mini-grant from the Sustainable Universities Initiative faculty developed nine sections designated as “environmental” which include a service learning component. Each 101 section focused on a different topic related to environmental sustainability, around which reading and writing assignments were organized. Topics ranged from “Environmental Citizenship” to “Writing and the Global Environment.” Additionally, each section incorporated a ten-hour community-service component related to the environment. By the end of the trial semester in 2001, 220 first-year students had performed approximately 2200 hours of community service for 30 campus and community agencies.

The course required intensive planning. The instructors met over the summer to plan their courses, review composition and environmental textbooks, discuss issues and ideas of sustainability and decide how the goals of SUI could be incorporated into the classroom. During summer freshman enrollment, an informational flyer was distributed to academic advisors and department heads, asking them to inform registering first-year students about the themed 101 sections.

Once registration was completed, the instructors developed an informational packet and letter that was sent to students enrolled in the themed sections explaining how the section would differ from other English 101 courses. The prospective students were given an opportunity to withdraw from the courses should they object to the theme or the community service/service-learning component. Every section experienced some turnover in enrollment, though there were only three cases that could be determined to have occurred directly as a result of the stated requirements. (Friend, et al. 2002)

A questionnaire was developed to gauge student reactions to the pilot program and to gain a better understanding of the student's response to the course and its theme. The majority of the students reacted positively to the course and indicated that the course increased their environmental awareness. We are confident that most of the students were "touched" in some way by the course. One section, focusing on urban environments, sent students into the community to document conflicts arising over potentially incompatible uses—the homeless shelter located across the street from the county library, for example. Students struggling to understand these issues grew in significant ways over the course of the semester.

Student comments indicated that the service learning portion of the course was appreciated. Sample comments included "I enjoyed the discussion on environmental issues the best of all," "What I enjoyed most about this theme course was being able to learn more about real-world issues," and "I also learned about South Carolina. I am not from here and it was interesting to see how South Carolina differs from the state I'm from." (First Year English Writing Programs Web Site, 2003)

Problems identified by instructors and students included:

USC Themed English Summary: Year 1

Impact

Number of Pilot Sections 9
Number of Participating Instructors 6
Number of Participating Students 220
Number of Community Service Hours Served 2200

Partial List of Agencies Served

Carolina Native Grass Society
Columbia Historical Preservation
Congaree Swamp National Monument
Habitat for Humanity
Harbison State Forest
Harvest Hope Food Bank
Keep America Beautiful
Oliver Gospel Mission
Project Pet
Pets, Inc
Riverbanks Zoo & Botanical Gardens
Salvation Army
Sierra Club
SUI On-Campus projects

- Difficulties identifying and contacting appropriate service agencies and placing students in a timely fashion. Efforts to enlist the campus Office of Community Service Programs to help were only partly successful.
- Some student resistance to what they perceived as an additional workload and cost (additional texts, etc.) of the environmental sections versus a standard 101 section.
- Instructors had to spend more time on course development/supervision than anticipated; stipends weren't commensurate with the extra work load. (Friend, et al., 2002)

In 2002, the program was expanded to include additional teaching assistants and sections of English 101, as well as several environmentally themed sections of English 102, an environmental literature course. Nine graduate student instructors taught 18 sections of English 101 and 102. Approximately 560 first-year students performed approximately 5600 hours of community service for agencies in the community and on campus. A significant number of students from the themed sections of English 101 opted to continue in an environmentally-themed 102 section, many asking for the same faculty member. Students in the English 102 sections read about landscapes, among other things, and worked with the campus landscape architect to relate creation of a landscape to the development of an essay. One interesting piece of anecdotal evidence attests to the degree to which these courses “connected” with students: members of one class presented their teaching assistant/professor with a gift of bees from the Heifer Project at the end of the course. They not only appreciated his efforts, but responded with a gesture that showed they understood sustainability. The program began its third year during the fall semester of 2003.

Clemson University Business and Technical Writing Classes

Clemson University's Department of English piloted the Client-Based Program in Business and Technical Writing classes in the 2002-3 academic year. Eleven sections of English 304 (Business Writing) and English 314 (Technical Writing) participated in the pilot program. Like English 101 at the University of South Carolina, Business Writing and Technical Writing reach many students in a variety of disciplines. The courses are required for majors ranging from agriculture and the sciences through engineering, and business. They are taken by other students in order to fulfill the university's writing requirement. The courses are intended to prepare students for the types of writing tasks they will encounter in the workplace. Six faculty, six clients, and 260 students were involved in the pilot program.

A workshop in November 2002 launched the program by bringing together the writing faculty and the clients. The workshop allowed them to learn about each other's needs and about sustainability, and to plan for integration of the projects into classes. Classes were held during the spring semester of 2003. By the end of the semester, the eleven classes had produced 192 deliverables, ranging from posters to lengthy reports to web sites.

Work products included reports analyzing possible approaches to “green building” for the Clemson Housing Department, ads promoting conservation and recycling for campus print and electronic media, and promotional brochures for the new campus agriculture and farmers market initiatives. Students also worked with community organizations, assisting in a community consensus-building effort in the nearby town of Seneca, and preparing instructions for parents and other volunteers involved in constructing and maintaining the storybook gardens at the new Clemson Elementary School.

18 white papers and reports

2 PowerPoint presentations
, forms, logos and other

In addition to these tangible products, the projects also led to significant changes in the students’ own environmental awareness. Teachers of the classes report that students:

- changed their habits to become more sustainable by reducing their use of clothes dryers and other “energy hogs,”
- printed drafts of their documents on recycled paper,
- made efforts to recycle glass, plastic and other materials,
- became more aware of the volume of waste on campus and the costs of disposal
- began to understand the complexity of environmental policies and practices
- saw themselves as agents of change in the university and community. (Taylor, 2003)

The students were clearly engaged in learning about both the environmental issues and the writing skills that they needed to understand in order to complete their projects. They also gained practical, “real world” experience that will serve them well in their chosen professions. They learned to cope with the joys and frustrations of team efforts, with jobs that change course at midstream, and with pressures of deadlines and limited resources. The written products that the students produced for their clients will advance the clients’ goals to improve the environmental sustainability and awareness of the Clemson campus and community. One faculty client said that he would have had to pay at least \$30,000 to obtain the equivalent services from a professional vendor, and added that he wasn’t sure the product would have been as carefully targeted to the Clemson audience. (Skewes, 2003)

The instructors felt that their students were more motivated to learn writing skills because they wanted to complete effective deliverables. The teachers of the classes said their students were “excited about the projects,” “worked hard to meet every deadline,” “took on more responsibility for their learning,” “wrote much better than students in previous semesters,” and “moved way ahead of where I envisioned them to be on such large projects.” In short, one teacher said, “The class atmosphere was exciting and a joy to come into every Tuesday and Thursday.” (Taylor, et al., 2003.)

The first year of the Client-Based Program produced deliverables for the clients as well as a substantial body of teaching and programmatic materials that can be used in other departments and universities to develop similar programs. In addition to the large binder of teaching materials developed for the workshop, the program now benefits from a client recruiting packet that includes a booklet about how the program works as well as samples of deliverables produced by students.

Response to the program from teachers, clients, and students has been overwhelmingly positive, and the program continued in 2003-4.

USC Learning Center for Sustainable Futures

The third example of the integration of academics and operations takes a different approach. USC's newest residence hall will not only be used as a laboratory, but will also surround inhabitants with examples of more efficient, effective building technologies on a routine basis. University Housing's West Quadrangle residence hall, slated to open in August 2004, will be a 500-bed apartment style complex, incorporating not only student apartments but also many lessons in cutting-edge design and technology to reduce the structure's impact on the environment. It is also expected to be one of the first LEED certified dormitories in the U.S. Students who live in the building cannot help but learn about sustainability as they go through their daily activities.

The building will use 30% less energy than similar residence halls. Features include the use of a fuel cell, passive solar and day lighting, light shelves, solar heating for domestic hot water, high efficiency equipment, and systems integration and commissioning. Student apartments will be individually metered to allow for incentive rebates and close monitoring of energy use by residents. The building is constructed on a slope, allowing for a grassed roof over a portion of the facility. Landscaping will include stormwater management via constructed wetlands and xeriscaping.

A Learning Center for Sustainable Futures will be fully integrated with the residential building. The Center will incorporate classroom and tutoring spaces, and will create opportunities for research and learning by making the building's advanced technology as transparent as possible. Thus, the building will not only educate its 500 occupants, but will provide a real world laboratory for students from a number of disciplines.

Students have already been involved in the development of LEED documentation for the project, and an environmental engineering professor has designed an entire course around construction of the building. Students and faculty will also be actively involved in assessing and managing environmental impacts from building operation once construction is complete. For example, a biology professor and his students are developing a system using phytoremediation for stormwater management.

To facilitate this ongoing use of the facility, the Provost created a task force to design learning initiatives using the issue of environmental sustainability as a theme and the residential and learning center facilities and grounds as the primary classroom. The task force recommended hiring a faculty member to oversee educational efforts and facilitate

service learning and the creation of smaller communities of students and faculty interested in exploring a particular learning focus.

Conclusion

On a small campus, a single course or activity can sometimes make a huge difference. At a large research campus, on the other hand, even a large number of courses focusing on environmental sustainability may not enroll a large enough percentage of the student body to make a difference. We have found that reaching out to liberal arts faculty has been an excellent way to carry our message to large numbers of students. We've also found that surrounding students with our message, so that they see it on a daily basis and come to expect a more effective approach to environmental management, is also a way to reach large groups of students. We hope students who have been "immersed" in green buildings demand the same efficiency in buildings they build or buy in the future, and that students who have actually worked on projects related to sustainability will understand its relevance to their careers, regardless of discipline.

As Bruce Herzberg wrote in "Community Service and Critical Teaching" "(s)tudents will not critically question a world that seems natural, inevitable, given; instead, they will strategize about their position within it. Developing a social imagination (through service learning) makes it possible not only to question and analyze the world, but also to imagine transforming it." (Herzberg, 1994) Our mission is to send students into the world prepared to question, to analyze, and to not only "imagine transforming it," but to effect that transformation.

Friend, McLeod, Final Grant Report, 2002, at <http://www.sc.edu/sustainableu/2002funded.htm>

Herzberg, Bruce. "Community Service and Critical Teaching." *CCC* 45.3 (October 1994): 307-319.

Taylor, Summer Smith and Mary T. Haque, Final Grant Report, 2003 at <http://www.sc.edu/sustainableu/2003funded.htm>

Skewes, Peter, personal communication to P. Jerman, 2003.